

1994

Trapping and Banding Raptors: Eastern Shore of Virginia, National Wildlife Refuge, Wise Point, September 10, 1994 to December 1, 1994

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Lukei, R. F. Jr. and Byrd, M A., "Trapping and Banding Raptors: Eastern Shore of Virginia, National Wildlife Refuge, Wise Point, September 10, 1994 to December 1, 1994" (1994). *CCB Technical Reports*. 467.
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TRAPPING AND BANDING OF RAPTORS
EASTERN SHORE OF VIRGINIA
NATIONAL WILDLIFE REFUGE
WISE POINT

SEPTEMBER 10, 1994

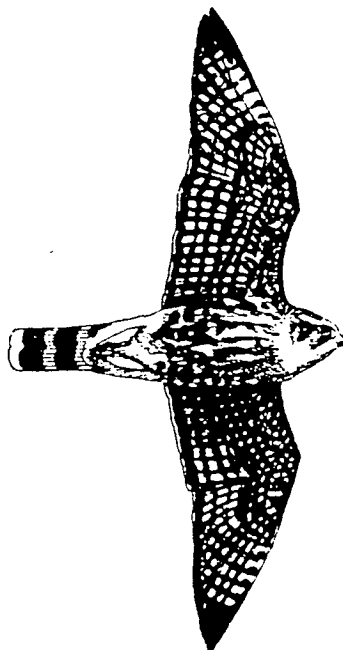
TO

DECEMBER 1, 1994

BY

REESE F. LUKEI, JR.

DR. MITCHELL A. BYRD



MERLIN
(Falco columbarius)

This project was operated at Wise Point on the Eastern Shore of Virginia National Wildlife Refuge under Special Use Permit # 67306 issued to Dr. Mitchell A. Byrd, Director Emeritus, Center for Conservation Biology, The College of William and Mary, and Reese F. Lukei, Jr., research associate, Center for Conservation Biology and refuge volunteer. The project is funded through the Virginia Nongame and Endangered Species Program and administered and supervised by Dr. Byrd. The daily operation of the banding site was by Reese F. Lukei, Jr., 1046 Azalea Court, Virginia Beach, Virginia 23452, telephone 804-340-5948, Federal banding permit #09351-H.

The purpose of the project is to trap and band raptors (hawks and falcons) during their fall migration. Data collected is provided to the U. S. Fish and Wildlife Bird Banding Laboratory, Office of Migratory Bird Management, the Virginia Department of Game and Inland Fisheries Nongame and Endangered Species Program, and the Eastern Shore of Virginia National Wildlife Refuge. Emphasis is placed on observations of the movement of the Peregrine Falcon, an endangered species. This project has been undertaken at this location for over ten years.

The Eastern Shore of Virginia NWR is a significant site for this activity because of its location at the southern tip of the Eastern Shore of Virginia. The raptors and other birds migrating south during the fall months follow the Atlantic coastline and shoreline of Chesapeake Bay and upon reaching the 18 miles of open water at the mouth of Chesapeake Bay, pause and wait for favorable winds before crossing the Bay to Virginia Beach. This is very similiar to the situation at Cape May, New Jersey. As a result, a large number of raptors are present from about mid-September through mid-November of each year.

Two types of trapping equipment are used to capture the raptors. Mist nets are very fine nylon, 40 feet long, seven feet high, with four pockets, that are held in place with 3/4 inch metal poles. Four of these nets are used, with two outside nets set at about a 30 degree angle with a third net in the middle, and a fourth net across the far open end of the right side. The other type of trap is a bow net, which is an aluminum frame about four feet in diameter, covered loosely with cotton crab netting, which folds in half and is activated by hinged springs. The release of the trap is controlled by a pull line from a blind. Two of these traps are used and are placed on the ground between the three mist nets. Refer to map #2.

Pigeons (rock dove), starlings and brown-headed cowbirds are used as lures. The cowbirds are used under USFWS permit #PRT-688032. The lure birds are placed in leather or cloth harnesses which are attached to dacron fish line that runs along the ground between the blind and wooden lure poles placed beyond the far ends

of the mist nets. These lines are pulled to allow the lure birds to fly, thus attracting the migrating raptors to the banding site.

The blind is a wooden structure ten feet long, four feet wide and seven feet high, with open windows on all sides for viewing. There is a door at each end. It will accomodate four people. The blind sits on a small sandhill and faces NNE. It is shown as letter A on map #1 and arranged in relation to the nets as shown on map #2.

The banding site was in operation for 55 days from September 10 through December 1, 1994 and was open every day except for days of rainy weather. The nets were open for 371 hours, for an average of 6.75 hours per day of operation. The nets were generally opened about sunrise and remained opened until raptor activity ceased. Refer to page 8 for data on hours of raptor activity.

The bands that are used are furnished by the USFWS Bird Banding Laboratory. They are aluminum and are numbered according to size. The sizes used and raptors applied to during this project were as follows:

<u>Size #</u>	<u>Raptor</u>
2	Male Sharp-shinned hawk
3	Female Sharp-shinned hawk
3B	Female Sharp-shinned hawk Male and Female American Kestrel Male Merlin
3A	Female sharp-shinned hawk
4	Female Merlin Male Cooper's hawk Male Northern Harrier
5	Female Cooper's hawk Female Northern Harrier Broad-winged hawk Red-shouldered hawk
6	Male Peregrine falcon Broad-winged hawk Red-shouldered hawk
7A	Female Peregrine falcon Red-tailed hawk
7B	Red-tailed hawk
7D	Red-tailed hawk

The raptors that are usually trapped and banded are:

American Kestrel - *Falco sparverius*

Merlin - *Falco columbarius*

Peregrine falcon - *Falco peregrinus*

Sharp-shinned hawk - *Accipiter straitus*

Cooper's hawk - *Accipiter cooperii*

Northern Harrier - *Circus cyaneus*

Red-tailed hawk - *Buteo jamaicensis*

The raptors that are occasionally trapped and banded are:

Northern Goshawk - *Accipiter gentilis*

Red-shouldered hawk - *Buteo lineatus*

Broad-winged hawk - *Buteo platypterus*

Rough-legged hawk - *Buteo lagopus*

The raptors that are observed but not trapped are as follows:

Bald Eagle - *Haliaeetus leucocephalus*

Golden Eagle - *Aquila chryaetos* (rare sightings)

Osprey - *Pandion haliaeetus*

Black Vulture - *Coragyps atratus*

Turkey Vulture - *Cathartus aura*

The results of trapping and banding for 1994:

<u>Raptor</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>Totals</u>
American Kestrel	8	1		9
Merlin	81	18		99
Peregrine	3	5		8
Sharp-shinned	62	268	54	384
Cooper's	29	85	7	121
Red-tailed	1	24	32	57
Broad-winged	1			1
Northern Harrier	<u>1</u>	<u>1</u>		<u>2</u>
Total banded	<u>186</u>	<u>402</u>	<u>93</u>	<u>681</u>
Foreign retraps	<u>6</u>	<u>5</u>	<u>2</u>	<u>13</u>
Total trapped	<u>192</u>	<u>407</u>	<u>95</u>	<u>694</u>
Days nets were open	15	26	13	54
Hours nets were open	130	173	70	373

The age and sex of raptors that were banded:

<u>Raptor</u>	<u>Not Sexed</u>		<u>Male</u>		<u>Female</u>		<u>Total</u>	
	<u>HY</u>	<u>AHY</u>	<u>HY</u>	<u>AHY</u>	<u>HY</u>	<u>AHY</u>	<u>HY</u>	<u>AHY</u>
American Kestrel			4		5		9	
Merlin			44	1	48	6	92	7
Peregrin			1		5	2	6	2
Sharp-shinned			205	10	163	6	368	16
Cooper'			64	9	40	8	104	17
Red-tailed	50	7					50	7
Broad-winged	1						1	
Northern Harrier			<u>2</u>				<u>2</u>	
Totals	<u>51</u>	<u>7</u>	<u>320</u>	<u>20</u>	<u>261</u>	<u>22</u>	<u>632</u>	<u>49</u>

HY - Hatch Year bird

AHY - After Hatch Year bird (includes AHY, SY and ASY)

The Bird Banding Laboratory does not allow sexing of
buteos (in the field).

Comparative data of the raptors banded from the years 1985-1994 at Wise Point are presented below. Data for the years 1985-1988 are from the records of Rudy Cashwell who operated the banding site during those years.

<u>Raptor</u>	<u>1994</u>	<u>1993</u>	<u>1992</u>	<u>1991</u>	<u>1990</u>	<u>1989</u>	<u>1988</u>	<u>1987</u>	<u>1986</u>	<u>1985</u>
American Kestrel	9	13	13	12	26	56	13	30	12	6
Merlin	99	64	91	84	81	285	184	232	324	88
Peregrine	8	15	10	23	35	25	11	13	16	5
Sharp-shinned	384	476	518	523	433	405	307	271	494	356
Cooper's	121	190	136	102	150	116	51	33	25	64
Northern Goshawk				3						
Northern Harrier	2	3	2		5	9	6	10	5	3
Red-tailed	57	67	46	34	19	24	2	1	3	8
Red-shouldered		1	3	1	2					
Broad-winged	2	3	2	2	1			1		
Rough-legged						1				
Total banded	681	832	821	784	752	921	574	591	879	530

Raptors that were trapped at Wise Point in 1994 that had been banded at other locations (referred to as foreign retraps) were:

<u>Date</u>	<u>Species</u>	<u>Sex</u>	<u>Age</u>	<u>Band #</u>	<u>Location</u>
9-20	Merlin	F	HY	1204-49133	1
9-20	Merlin	F	HY	1204-49136	1
9-21	Peregrine	F	HY	987-14194	1
9-25	Merlin	F	HY	1204-47303	1
9-28	Sharp-shinned	F	HY	1423-74760	3
9-29	Sharp-shinned	M	HY	922-41167	3
10-05	Cooper's	F	HY	745-88554	2
10-10	Merlin	F	HY	1204-49027	3
10-11	Sharp-shinned	F	HY	1423-74794	3
10-12	Sharp-shinned	M	HY	952-89838	3
10-19	Sharp-shinned	F	HY	1053-35644	3
11-03	Sharp-shinned	F	HY	1053-35979	1
11-05	Sharp-shinned	M	HY	702-52606	1

Location

- 1 Kiptopeke State Park, Virginia, by Earl Hodnett
- 2 Fisherman Island NWR, Virginia, by Shawn Padgett
- 3 Unknown at report date

As of the date of this report there has been five known recoveries at other locations of raptors banded at Wise Point in 1994, all at Kiptopeke State Park by Earl Hodnett:

10-12-94 #1207-41033 Red-tailed HY U banded 10-11-94
 10-25-94 #1207-41039 Red-tailed HY U banded 10-25-94
 11-08-94 #1705-19141 Cooper's HY F banded 11-02-94
 11-09-94 # 972-62770 Sharp-shinned HY M banded 11-02-94
 11-14-94 #1807-27193 Red-tailed HY U banded 11-12-94

Raptors that were trapped and banded at other locations and later retrapped at Wise Point during the 1993 season were:

<u>Date</u> <u>Retrapped</u>	<u>Date</u> <u>Banded</u>	<u>Band #</u>	<u>Specie</u>	<u>Bander</u>	<u>Location</u>
10-02-93	10-02-93	816-31541	Peregrine	E. Hodnett	1
10-03-93	10-02-93	1423-74610	Sharp-shin	E. Hodnett	1
10-05-93	10-02-93	745-38797	Cooper's	P. Engram	2
10-21-93	10-11-93	745-93263	Cooper's	O. Allen	2
10-21-93	10-16-93	1383-98945	Sharp-shin	S. Cardano	3
10-28-93	10-23-93	1705-07753	Cooper's	M. Harris	2
11-11-93	11-10-93	1207-06561	Red-tailed	E. Hodnett	1
11-16-93	11-10-93	1387-06831	Red-tailed	E. Hodnett	1
11-24-93	11-08-93	745-92560	Cooper's	A. Hinde	2

Locations: 1 - Kiptopeke State Park, Virginia
 2 - Cape May, New Jersey
 3 - Northern Virginia

Raptors that were banded at Wise Point in years prior to 1994 that have been retrapped at other locations are:

<u>Raptor</u>	<u>Date</u> <u>Banded</u>	<u>Date</u> <u>Recovered</u>	<u>Location Recovered</u>
Merlin	09-28-82	05-04-86	Baffin Island, Canada
Merlin	09-29-82	04-22-84	Solon, ME
Peregrine	10-04-83	10-10-83	Villa Clara, Cuba
Merlin	10-09-83	12-01-85	Adelaide Beach, FL
Cooper's	10-27-83	05-09-84	Cambridge, NY
Merlin	09-21-84	04-09-85	Guarare, Panama
Sharp-shinned	09-28-84	01-24-89	Charleston, SC
Sharp-shinned	10-12-84	10-08-86	Kittatinny Mountain, NJ
Sharp-shinned	10-19-84	01-05-85	Courtland, VA
Red-tailed	11-03-84	02-19-85	Virginia Beach, VA
Sharp-shinned	09-26-85	05-04-89	Randolph, NJ
Cooper's	10-26-85	03-04-88	Meadowbrook, PA
Merlin	09-16-86	09-20-86	Ponce Inlet, FL
Sharp-shinned	10-04-86	11-27-86	St. Augustine, FL
Sharp-shinned	10-04-86	12-20-86	Bokeeia, FL
Sharp-shinned	10-04-86	12-29-86	Hendry County, FL
Sharp-shinned	10-10-86	10-10-86	Kiptopeke Beach, VA
Merlin	10-10-86	10-15-87	St. Johns, Newfoundland
Merlin	10-10-86	08-10-88	Cupids, Newfoundland
Merlin	10-11-86	10-11-86	Kiptepeke Beach, VA
America Kestrel	09-18-87	01-20-88	Anquillia, British W. Indies
Merlin	09-18-87	11-30-88	La Sierpa, Cuba

(Continued next page)

Merlin	09-30-87	05-14-88	Amherst, VA
Sharp-shinned	10-06-87	10-05-88	Lehigh, Furnace, NJ
Sharp-shinned	10-06-87	10-11-88	Cape May, NJ
Cooper's	10-10-87	10-13-88	Cape May, NJ
Cooper's	10-10-87	10-15-90	Branchville, NJ
Sharp-shinned	10-11-87	10-18-88	Fisherman Island NWR, VA
Merlin	09-12-88	04-00-91	St. Honore, Quebec, Canada
Merlin	09-23-88	10-02-88	Belhaven, NC
Merlin	09-23-88	11-28-88	Guimaro, Cuba
Sharp-shinned	09-29-88	11-28-88	Lake City, FL
Sharp-shinned	10-01-88	11-05-88	Jacksonville, FL
Cooper's	10-08-88	02-03-89	Swanadell Acres, DE
Merlin	10-14-89	02-22-90	Cueto Prov. Holguin, Cuba
Cooper's	10-22-89	10-25-90	Fisherman Island NWR, VA
Sharp-shinned	10-30-89	04-20-92	Colebrook, NH
American Kestrel	09-25-90	07-01-91	Phillipsburg, NJ
Sharp-shinned	10-02-90	01-20-91	Dagsboro, DE
Cooper's	10-06-90	10-06-90	Fisherman Island NWR, VA
Cooper's	10-09-90	10-10-90	Fisherman Island NWR, VA
Cooper's	10-10-90	10-12-90	Fisherman Island NWR, VA
Cooper's	10-11-90	10-12-90	Fisherman Island NWR, VA
Cooper's	10-14-90	01-16-92	Melitota, MD
Sharp-shinned	11-03-90	04-30-91	Skowhegan, ME
Cooper's	11-03-90	00-00-92	Littleton, NH
Sharp-shinned	11-11-90	12-10-90	Chesapeake, VA
Merlin	09-18-91	02-08-92	Banao, Cuba
Merlin	10-06-91	12-01-91	Unknown
Sharp-shinned	10-15-91	12-24-91	Key West, FL
Cooper's	10-08-92	02-27-93	Accomac, VA
Peregrine	10-10-92	10-10-92	Fisherman Island NWR, VA
Sharp-shinned	10-25-92	10-26-92	Kiptopeke State Park, VA
Sharp-shinned	10-28-93	11-17-93	Kiptopeke State Park, VA
Red-tailed	11-11-93	11-12-93	Cape May, NJ

Records were kept of the times (EDT) at which all raptors were trapped. However, in 1994 the nets were not consistently open after 1400 EDT, and therefore the data would not be deemed reliable. Generally there are raptors present most of the day, but various species are active and therefore trapped at different times of the day. Those species that were trapped in 1993 in sufficient numbers to obtain reliable data were:

Merlin	40 of 64	63%	between 1500 and 1859
Sharp-shinned	430 of 478	90	between 0700 and 1359
Cooper's	139 of 194	72	between 0900 and 1459
Red-tailed	59 of 69	86	between 1000 and 1459

The time of day (EDT) at which all raptors were trapped for the years 1989 through 1993 were as follows:

<u>Hour</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>
0700	127	114	129	120	128
0800	118	133	111	113	118
0900	101	99	85	96	119
1000	100	82	75	96	88
1100	83	81	85	89	86
1200	62	44	61	71	70
1300	52	64	51	74	69
1400	51	48	48	55	52
1500	72	37	55	51	40
1600	82	34	63	41	36
1700	61	29	32	24	22
1800	<u>18</u>	<u>6</u>	<u>4</u>	<u>6</u>	<u>13</u>
	927	771	799	836	841

No attempt is made to record the number of raptors that are present at the banding site because of the tendency of the raptors to mill around and fly back and forth from north of the site to Fisherman Island NWR one mile south of the site. While there has been no attempt to keep record of the number of raptors that are trapped as they return from the south, it is estimated that about 15-20% are trapped as they approach from the south.

The graphs on pages 12, 13, and 14 show the time of day (EDT) that the three most common species observed at Wise Point, Sharp-shinned, Cooper's and Merlin, were trapped for the years 1989-1992. 1993 and 1994 data was compiled and is comparable to 1989-1992 but is not included in the graphs in order to keep the graphs readable.

OBSERVATIONS:

Peregrine Falcon

The Peregrine Falcon, a Federal and Virginia endangered species, is the focus of this project. Records are kept daily of all the sightings of this specie. 1994 saw an improvement over the 1992 season in the number of Peregrine sighted, but a significant decrease in the number trapped. The decrease in the number trapped in 1994 is due to two factors: (1) many of the Peregrines were not sighted until they were past the banding site because of the height of the pine trees to the west of the site, and (2) on the days the Peregrines were present in good numbers they were simply not stopping for anything, but intent on migrating southward.

<u>Year</u>	<u>Sightings</u>	<u>Trapped</u>
1989	300+	25
1990	300+	39
1991	150	25
1992	70	12
1993	96	16
1994	130	9

As has been noted in prior years, the most frequently used migration route for the Peregrine is from north to south along U.S. Route 13. Approximately 75% of the Peregrines use this route. The pine trees to the west of the banding site have grown to such height that many of the Peregrine taking this route cannot be seen from the blind. Further evidence of this occurring is that the Hawk Watch Station at Kiptopeke State Park has experienced only a slight decrease in Peregrine sightings. Some Peregrine take a brief detour to play along the tree line along the marsh (C on Map #1) before continuing their migration toward Fisherman Island to the south.

Merlin

1994 was the fourth year that a much smaller number of Merlin were sighted or trapped, although 1994 did see an increase in the number trapped over 1993. Other banding stations, including Cape May, New Jersey, have had similar experience. Part of the reason at Wise Point is that the pine trees to the north and west of the banding site have reached such a height that the Merlin are past the site before they are sighted. Merlin tend to migrate right at treetop level and move at a high rate of speed along U.S. Route 13.

Bald Eagles

Bald Eagles were observed on 21 of the 55 days the banding site was in operation in 1994. This compares with 18 out of 52 days in 1993 and 30 out of 55 days in 1992. Two adults, one sub-adult, and three immature eagles were identified. They are most frequently seen early in the morning flying south toward Fisherman Island, and

returning about mid-morning. There, however, does not seem to be a consistent pattern and there are sometimes several days between sightings. Some sightings are made on successive days. Again this year Bald Eagles were seen either landing or rising from the marsh (B on Map #1) to the immediate north of the site.

Cooper's Hawks and Sharp-shinned Hawks

There has been a significant increase in the number of Cooper's Hawks trapped in the past five years. A record number of Cooper's were trapped in 1993, but the number trapped in 1994 was down. There are three reasons for this, (1) there is a general increase in the population based upon the results from other banding stations (Cape May also set a record for Cooper's in 1993), (2) the site has been open more during mid-day when they are most active, and (3) more have been caught early in the morning when the site is first opened because of their tendency to spend the night sitting on the edge of the cleared brush to the north of the blind.

The number of Sharp-shinned Hawks observed and trapped was down in 1994, but the reason for this is not known nor comparable with other locations as of the date of this report as the data is not yet available.

Red-tailed Hawks

A record number of red-tailed hawks was trapped in 1993. The number of red-taileds trapped in 1994 was down slightly, but still an increase over years prior to 1993.

RECOMMENDATIONS:

As mentioned on page one, Wise Point is an area of significance to raptors and also neo-tropical songbirds using the Atlantic Flyway in the fall. The shrubs and brush surrounding the banding site are heavily used by passerines for feeding, rest, and security. That, of course, makes this area especially attractive for migrating Sharp-shinned and Cooper's hawks.

Of continued concern is the growth of pine trees which are taking over this area. This is a natural succession from what was the dump site for the spoil from the Inland Waterway when it was constructed. If the pines are left to populate this area as they have the areas to the north and west of the banding site, there will in only a few years be very little of the shrub and brush habitat left that the passerines so much depend upon. The pines grow densely and shade out the lower growing shrubs and brush. If the Wise Point area is to continue as a special place for passerines and as a raptor banding site, then the Refuge should develop a management plan that takes these concerns into consideration.

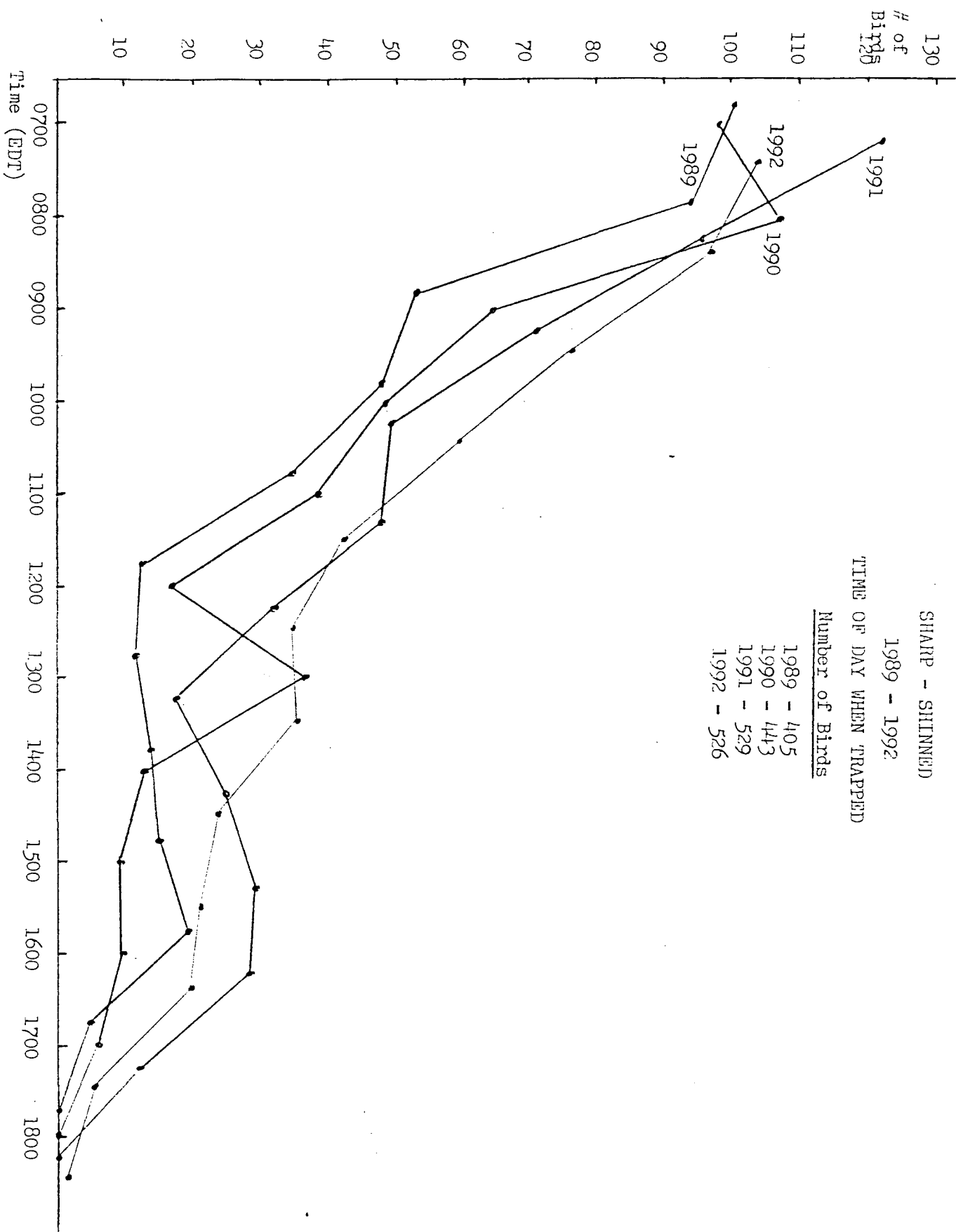
ACKNOWLEDGEMENTS:

My thanks to Dr. Mitchell A. Byrd, for his confidence in me and allowing me to operate the Wise Point banding station. He was able to spend much time at the site and operated the station on several days while I was away. My thanks also to Earl Hodnett and Shawn Padgett who provided me with lure birds. Dr. Bryan Watts, Rudy Cashwell, Doug Davis, Walter Conrad and Lexie Caswell provided valuable assistance at the banding site.

Sherman Stairs, refuge manager, and his staff were, as they have been every year, very accommodating to me by clearing the banding site and the path to it with their brush-hog, and inviting me to participate in the second Eastern Shore Birding Festival. I would not be able to carry out this project without the assistance and support of my wife, Melinda.

REPORT SUBMITTED BY:

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December 30, 1994

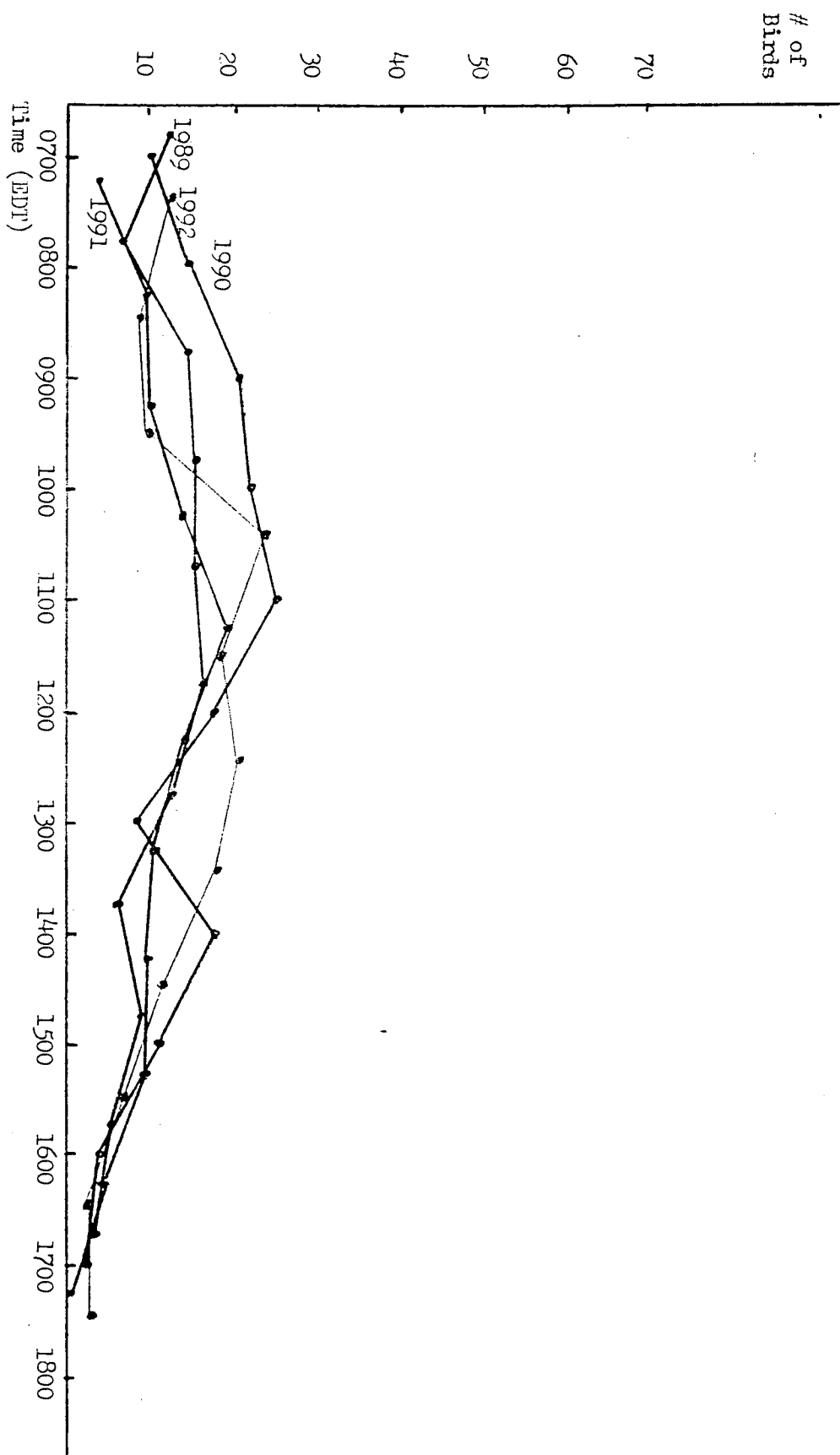


GOOPER'S
1989 - 1992

TIME OF DAY WHEN TRAPPED

Number of Birds

1989 - 119
1990 - 156
1991 - 107
1992 - 140

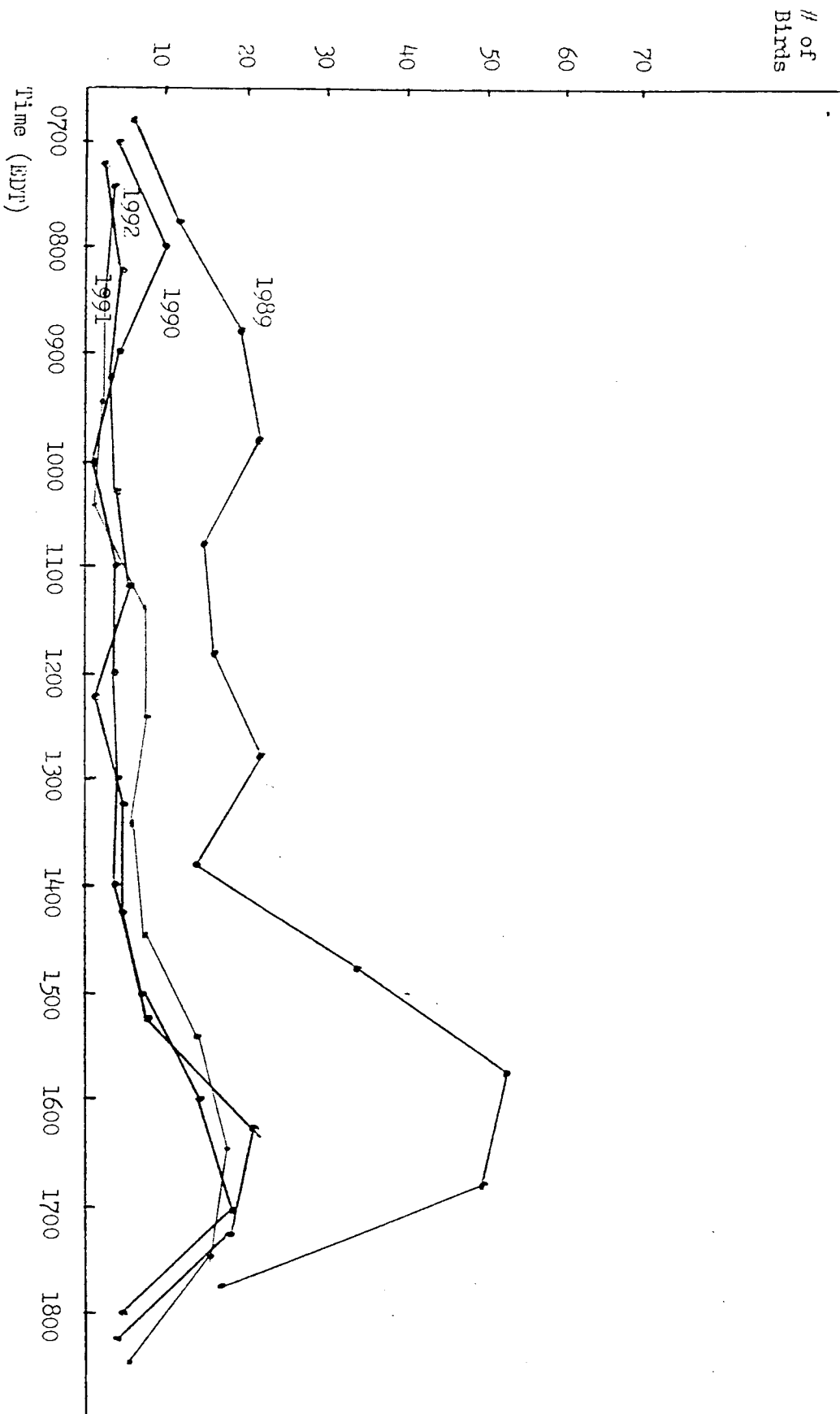


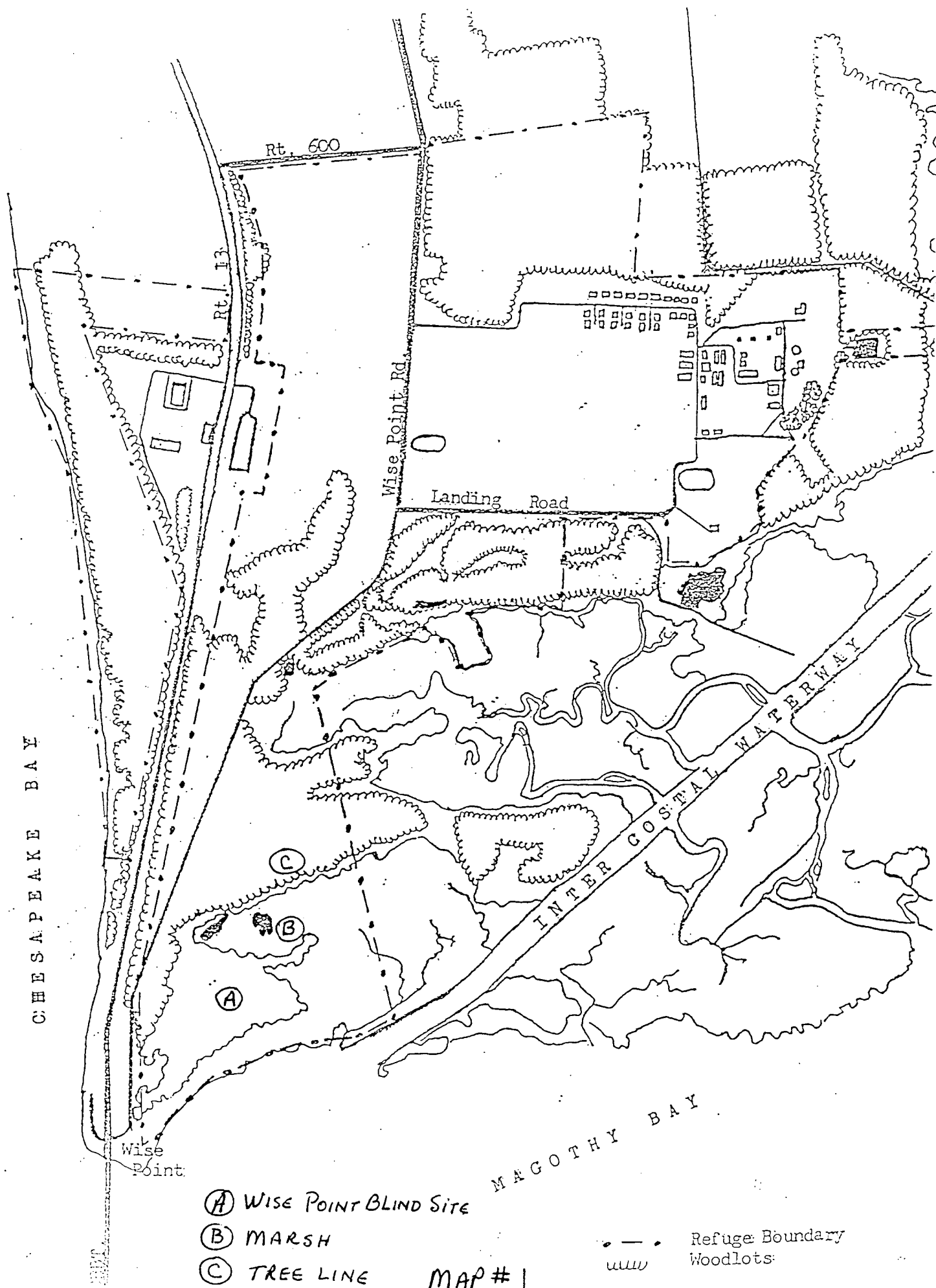
MERLIN
1989 - 1992

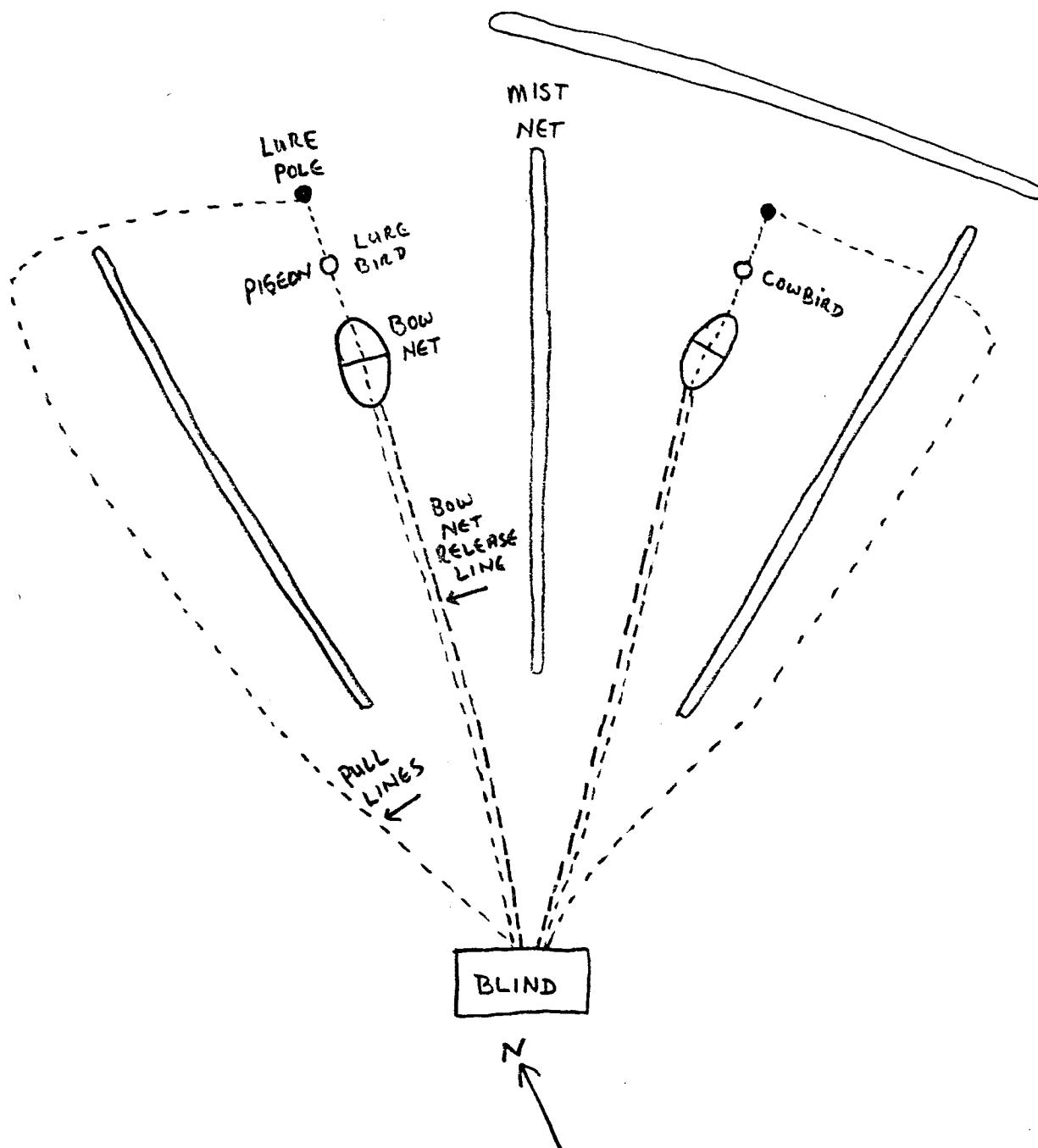
TIME OF DAY WHEN TRAPPED

Number of Birds

1989 - 285
1990 - 81
1991 - 84
1992 - 91







BANDING SITE ARRANGEMENT

MAP #2